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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY CLASS I PERMIT

COMPANY NAME: Phelps Dodge Sierrita Incorporated
PERMIT NUMBER: M190699P2-99
DATE ISSUED: *Proposed Permit*
EXPIRY DATE:

This operating permit is issued to Phelps Dodge Sierrita Incorporated (PDSI), Permittee, for operation of their Sierrita and Twin Buttes Operations, which is located on U.S. Highway 19 in Green Valley, Pima County, Arizona. PDSI operates an open pit copper mine, ore processing and copper extraction facilities. Copper and molybdenum are the primary products produced by PDSI. Copper and molybdenum disulfide is produced through conventional milling and froth flotation and pure copper is produced through solution extraction and electrowinning. Molybdenum trioxide is produced through roasting. Rhenium is also recovered in the molybdenum roasting operations.

All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the A.A.C. All material permit conditions have been identified within the permit by a double underline. All terms and conditions in this permit are enforceable by the Administrator of the U.S. Environmental Protection Agency, except for those terms and conditions that have been designated as "State Requirements".

PDSI is a "major source". The potential emission rates of the following pollutants are greater than 100 tons per year: (i) particulate matter less than ten microns and (ii) sulfur dioxide. This permit is issued in accordance with Title V of the Clean Air Act, and Title 49, Chapter 3 of the Arizona Revised Statutes. Applicable requirements for the operations at Sierrita are listed in Attachment "C" of this permit.

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ATTACHMENT "A": GENERAL PROVISIONS

AIR QUALITY CONTROL PERMIT NO. M190699P2-99
FOR
PHELPS DODGE SIERRITA INCORPORATED

I. PERMIT EXPIRATION AND RENEWAL [A.R.S. § 49-426.F, A.A.C. R18-2-304.C.2, 306.A.1, and 322]

A. This permit is valid for a period of five years from the date of issuance of the permit.

B. Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months prior to the date of permit expiration.

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a. and b, A.R.S. § 49-463, and A.R.S. §49-464]

A. Permittee shall comply with all the conditions contained in Attachments "A" through "D"of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act (Act).

B. Need to halt or reduce activity not a defense. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

[A.A.C. R18-2-306.A.8.c and 321.A]

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. The permit shall be reopened and revised under any of the following circumstances:

1. Additional applicable requirements under the Act become applicable to the Class I source. Such reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to R18-2-322(B). Any permit revision required pursuant to this subparagraph shall comply with provisions in R18-2-322 for permit renewal and shall reset the five year permit term.

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.

3. The Director or the Administrator determines that the permit contains a material mistake

or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under paragraph 1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in paragraph III.B.1 of this Attachment shall not result in a resetting of the five year permit term.

IV. POSTING OF PERMIT [A.A.C. R18-2-315]

A. Permittee shall post this permit, or a certificate of permit issuance where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by the permit shall be clearly identified with one of the following:

1. Current permit number.

2. Serial number or other equipment number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on the site.

V. FEE PAYMENT [A.A.C. R18-2-326 and 306.A.9]

Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE [A.A.C. R18-2-327]

A. Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

A. Permittee shall submit a compliance certification to the Director twice each year, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than April 15th, and shall report the compliance status of the source during the period between September 16th of the previous year, and March 15th of the current year. The second certification shall be submitted no later than October 15th, and shall report the compliance status of the source during the period between March 16th and September 15th of the current year.

[A.A.C. R18-2-309.2.a]

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification; [A.A.C. R18-2-309.2.c.i]

2. Compliance status with each applicable requirement; [A.A.C. R18-2-309.2.c.ii]

3. Whether compliance was based on continuous or intermittent data; [A.A.C. R18-2-309.2.c.iii]

4. Method(s) used for determining the compliance status of the source, currently and over the reporting period; [A.A.C. R18-2-309.2.c.iv]

5. A progress report on all outstanding compliance schedules submitted pursuant to Section XII.D of this Attachment. Progress reports submitted with compliance certifications satisfy the reporting requirements of A.A.C. R18-2-309.5.d. [A.A.C. R18-2-309.5.d]

B. A copy of all compliance certification for Class I permits shall also be submitted to the EPA Administrator. [A.A.C. R18-2-309.2.d]

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS [A.A.C. R18-2-309.3]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

IX. INSPECTION AND ENTRY [A.A.C. R18-2-309.4]

Permittee shall allow the Director or the authorized representative of the Director upon presentation of proper credentials to:

A. Enter upon Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

If this source becomes subject to a standard promulgated by the Administrator pursuant to section 112(d) of the Act, then Permittee shall, within twelve months of the date on which the standard is promulgated, submit

an application for a permit revision demonstrating how the source will comply with the standard.
[A.A.C. R18-2-304.C]

XI. ACCIDENTAL RELEASE PROGRAM

If this source becomes subject to the provisions of 40 CFR Part 68, then Permittee shall comply with these provisions according to the timeline specified in 40 CFR Part 68. [40 CFR 68]

XII. REPORTING OF EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCIES

A. EXCESS EMISSIONS REPORTING [A.A.C. R18-2-310.01.A and -310.01.B]

1. Excess emissions shall be reported as follows:

   a. Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:

      (1) Notification by telephone or facsimile within 24 hours of the time when Permittee first learned of the occurrence of excess emissions including all available information from paragraph b. of this subsection.

      (2) Detailed written notification within 72 hours of the notification under subparagraph (1) of this paragraph.

   b. The excess emission report shall contain the following information:

      (1) Identity of each stack or other emission point where the excess emissions occurred.

      (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions.

      (3) The time and duration or expected duration of the excess emissions.

      (4) Identity of the equipment from which the excess emissions emanated.

      (5) Nature and cause of such emissions.

      (6) The steps taken, if the excess emissions were the result of a malfunction, to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunctions.

      (7) The steps that were or are being taken to limit the excess emissions.

      (8) If the permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted from startup or malfunction, a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions

are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsection XII.A.1. [A.A.C. R18-2-310.01.C]

B. PERMIT DEVIATIONS REPORTING [A.A.C. R18-2-306.A.5]

1. Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time the deviation occurred.

2. All instances of deviations from permit requirements shall be clearly identified in the required semiannual monitoring report specified in Attachment "B", Section III.B, and shall be certified by the responsible official. [A.A.C. R18-2-306.A.5.a]

C. EMERGENCY PROVISION [A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

   a. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of paragraph (b) of this subsection are met.

   b. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

      (1) An emergency occurred and that Permittee can identify the cause(s) of the emergency;

      (2) The permitted facility was at the time being properly operated;

      (3) During the period of the emergency, Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

      (4) Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

c. In any enforcement proceeding, Permittee seeking to establish the occurrence of an emergency has the burden of proof.

d. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. For any excess emission or permit deviation that cannot be corrected within 72 hours, Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated. [A.R.S. 49-426.I.5]

E. AFFIRMATIVE DEFENSES FOR EXCESS EMISSIONS DUE TO MALFUNCTIONS, STARTUP, AND SHUTDOWN

[A.A.C. R18-2-310]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations :

a. Promulgated pursuant to Sections 111 or 112 of the Act;
b. Promulgated pursuant to Titles IV and VI of the Clean Air Act;
c. Contained in any Prevention of Significant Deterioration (PSD) ir New Source Review (NSR) permit issued by the U.S. EPA;
d. Contained in A.A.C. R18-2-715.F; or
e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emissions limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following :

a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of Permittee;

b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions;

c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, Permittee satisfactorily demonstrated that the measures were impracticable;

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

h. The excess emissions did not stem from any activity or event that could have been forseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

i. All emissions monitoring systems were kept in operation if at all practicable; and

j. Permittee's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following :

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

(2) If the excess emissions were the result of a bypass control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment or other property;

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good air pollution control practice for minimizing emissions;

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

(5) All reasonable steps were taken to minimize the impact of the excess emissions on

ambient air quality;

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

(7) All emissions monitoring systems were kept in operation if at all practicable; and

(8) Permittee's actions in response to the excess emissions were documented by contemporaneous records.

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Conditions XII.E.2 or XII.E.3 above, Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS [A.A.C. R18-2-306.A.4]

A. Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;

2. The date(s) analyses were performed;

3. The name of the company or entity that performed the analyses;

4. A description of the analytical techniques or methods used;

5. The results of such analyses; and

6. The operating conditions as existing at the time of sampling or measurement.

B. Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

XIV. REPORTING REQUIREMENTS [A.A.C. R18-2-306.A.5.a]

Permittee shall submit the following reports :

A. Compliance certifications in accordance with Section VII of Attachment "A".
B. Reports of excess emissions, permit deviations, and emergencies in accordance with Section XII of Attachment "A".
C. Other reports required by Attachment "B".

XV. DUTY TO PROVIDE INFORMATION [A.A.C. R18-2-304.G and 306.A.8.e]

A. Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

B. If Permittee has failed to submit any relevant facts or if Permittee has submitted incorrect information in the permit application, Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

XVI. PERMIT AMENDMENT OR REVISION [A.A.C. R18-2-318, 319 and 320]

Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVII, as follows:

A. Administrative Permit Amendment (A.A.C. R18-2-318);
B. Minor Permit Revision (A.A.C. R18-2-319);
C. Significant Permit Revision (A.A.C. R18-2-320).

The applicability and requirements for such action are defined in the above referenced regulations.

XVII. FACILITY CHANGE WITHOUT PERMIT REVISION [A.A.C. R18-2-317]

A. Permittee may make changes at the permitted source without a permit revision if all of the following apply:

1. The changes are not modifications under any provision of Title I of the Act or under A.R.S. § 49-401.01(17).

2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions.

3. The changes do not violate any applicable requirements or trigger any additional applicable requirements.

4. The changes satisfy all requirements for a minor permit revision under R18-2-319(A).

5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of subsections (A) and (C) of this Section.

C. For each such change under subsections A and B of this Section, a written notice by certified mail or hand delivery shall be received by the Director and, for Class I permits, the Administrator, a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible. Each notification shall include:

1. When the proposed change will occur.

2. A description of each such change.

3. Any change in emissions of regulated air pollutants.

4. The pollutants emitted subject to the emissions trade, if any.

5. The provisions in the implementation plan that provide for the emissions trade with which the source will comply and any other information as may be required by the provisions in the implementation plan authorizing the trade.

6. If the emissions trading provisions of the implementation plan are invoked, then the permit requirements with which the source will comply.

7. Any permit term or condition that is no longer applicable as a result of the change.

XVIII. PERFORMANCE TESTING REQUIREMENTS [A.A.C. R18-2-312]

A. Operational Conditions During Performance Testing

Performance tests shall be conducted during operation of the unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

B. Performance tests shall be conducted and data reduced in accordance with the test method and procedures contained in the Arizona Testing Manual for Air Pollutant Emissions, Revision F, March 1992, unless modified by the Director pursuant to A.A.C. R18-2-312.B.

C. Performance Test Plan

At least 14 calendar days prior to performing a test, Permittee shall submit a test plan to the Director,

in accordance with the Arizona Testing Manual for Air Pollutant Emissions, Revision F, March 1992.

D. Stack Sampling Facilities

Permittee shall provide or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platforms;
3. Safe access to sampling platforms; and
4. Utilities for sampling and testing equipment.

E. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. If a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other conditions beyond Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the other two runs. If the Director, or Director's designee, is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes, forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other conditions beyond Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test.

F. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS [A.A.C. R18-2-306.A]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XX. SEVERABILITY CLAUSE [A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

XXI. PERMIT SHIELD [A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with the applicable requirements identified in Attachment "C" of this permit. The permit shield shall not apply to any changes made pursuant to Section XVI.B of this Attachment and Section XVII of this Attachment.

ATTACHMENT "B": SPECIFIC CONDITIONS

AIR QUALITY CONTROL PERMIT NO. M190699P2-99
FOR
PHELPS DODGE SIERRITA INCORPORATED

I. FACILITY-WIDE REQUIREMENTS

A. Within 180 days of issuance of this permit, Permittee shall have on call a person that is certified in EPA Reference Method 9. [A.A.C. R18-2-306.A.3.c]

B. At the time the compliance certifications required by Section VII of Attachment "A" are submitted, Permittee shall submit all monitoring reports required by this Attachment performed in the same six month period as applies to the compliance certification period. [A.A.C. R18-2-306.A.5.a]

C. Visibility Limiting Standard [Pima County Code 17.16.050.D]

1. Permittee shall not cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne, without taking reasonably necessary and feasible precautions to control generation of airbourne particulate matter. Sources may be required to cease temporarily the activity or operation which is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken.

2. The actions constituting reasonably necessary and feasible precautions are included in this permit as permit conditions. Compliance with such permit conditions shall be considered compliance with condition I.C.1 above. [State Enforceable Requirement]

3. Condition I.C shall not apply when wind speeds exceed twenty-five (25) miles per hour (using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source.

4. Condition I.C shall not apply to the generation of airborne particulate matter from undisturbed land. [State Enforceable Requirement]

II. REQUIREMENTS FOR THE PRIMARY CRUSHING CIRCUITS

A. Non-New Source Performance Standard (Non-NSPS) Affected Facilities

Affected Facilities Subject to the Standards of Performance for Existing Nonferrous Metals Industry Sources *(Emission units marked "N" in the NSPS column of Sections II and III of Attachment "D" of this permit)* shall comply with the following:

1. Emission Limits and Standards

a. Particulate Matter Standard

(1) Standard Applicable Until A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County.

[State SIP R9-3-521.A.2.a]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 17.31P^{0.16}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

(2) Standard Applicable On and After the Date A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County.

[A.A.C. R18-2-721.B]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

Where E and P are defined as indicated in paragraph (1) above.

b. Visible Emissions - Opacity Standard [A.A.C. R18-2-702.B and R18-2-702.C]

(1) The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9.

(2) Where the presence of uncombined water is the only reason for the exceedance of this visible emissions requirement, such exceedance shall not constitute a violation.

2. Monitoring, Recordkeeping, and Reporting Requirements

a. Initial Requirement

Within 180 days of issuance of this permit or within 180 days of startup, Permittee shall conduct one certified Method 9 observation on the scrubbers while they are operating at normal representative working conditions to establish a baseline opacity level. Within 10 days of establishing the baseline opacity, Permittee shall report the results to the Director. [A.A.C. R18-2-306.A.3.c]

b. Daily Monitoring Requirement

Permittee shall record the daily process rate and hours of operation of all material handling facilities. [A.A.C. R18-2-721.F]

c. Bi-weekly (Every Two Weeks) Monitoring Requirement [A.A.C. R18-2-306.A.3.c]

(1) A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by condition II.A when they are in operation.

(2) For Point Sources Covered by condition II.A

(a) If the observer, during the visual survey, does not see a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location of the observation and results of the observation.

(b) If the observer sees a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(c) If the six-minute opacity of the plume is less than the baseline, the observer shall make a record of the following:

i) Location (stack identification), date, and time of the test; and
ii) The results of the Method 9 observation.

(d) If the six-minute opacity of the plume exceeds the baseline level but is less than the opacity standard, then Permittee shall adjust or repair the controls or equipment, as necessary, to reduce opacity to or below the baseline level. Permittee shall make a record of the following:

i) Location (stack identification), date, and time of the test; and
ii) The results of the Method 9 observation.

(e) If the six-minute opacity of the plume exceeds both the baseline level and the opacity standard, then Permittee shall do the following:

i) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
ii) Report it as an excess emission for opacity.

(f) If corrective actions fail to reduce opacity to or below the baseline level, Permittee shall adopt the following course of action :

i) Document all corrective action; and
ii) Initiate procedures to re-establish the baseline within forty eight hours in accordancewith subsection (h) below.

(g) Permittee shall conduct at least one Method 9 opacity test annually for each stack subject to the requirements of this section, if operated during the calendar year.

(h) If necessitated by the results of the bi-weekly monitoring, Permittee may re-establish the baseline opacity level. Re-establishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 10 days of re-establishing the baseline opacity, Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

(3) For Fugitive Sources Covered by this Section

(a) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

(b) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(c) If the six-minute opacity of the plume is less than the opacity standard, then the observer shall make a record of the following:

i) Location, date, and time of the test; and
ii) The results of the Method 9 observation.

(d) If the six-minute opacity of the plume exceeds the opacity standard, then Permittee shall do the following:

i) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
ii) Report it as excess emissions.

[A.A.C. R18-2-306.A.3.c]

B. New Source Performance Standards (NSPS) Affected Facilities

Affected Facilities Subject to Subpart LL - Standards of Performance for Metallic Mineral Processing Plants *(Emission units marked "Y" in the NSPS column of Sections II and III of Attachment "D" of this permit)* shall comply with the following:

1. Emission Limits and Standards

a. Particulate Matter Standard

Permittee shall not cause to be discharged into the atmosphere from an affected facility any stack emissions that contain particulate matter in excess of 0.05 grams per dry standard cubic meter. [40 CFR 60.382(a)(1)]

b. Visible Emissions - Opacity Standard

Permittee shall not cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity. [40 CFR 60.382(b) and A.A.C. R18-2-331]

2. Monitoring, Record Keeping and Reporting

a. Monitoring of Operations

(1) For each scrubber, Permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions. [40 CFR 60.384(a)]

(2) For each scrubber, Permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's specifications.

[40 CFR 60.384(b)]

b. Weekly Recording Requirement

Permittee shall record on a weekly basis the measurements of both the change in the pressure of the gas stream across the scrubber and the scrubbing liquid flow rate. [40 CFR 60.385(b)]

c. Bi-weekly (Every Two Weeks) Monitoring for Fugitive Sources Covered by condition II.B

[A.A.C. R18-2-306.A.3.c]

(1) A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by condition II.B when they are in operation.

(2) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location and the results of the observation.

(3) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall if practicable take a six-minute Method 9 observation of the plume.

(4) If the six-minute opacity of the plume is less than the opacity standard, then the observer shall make a record of the following:

(a) Location, date, and time of the test; and
(b) The results of the Method 9 observation.

(5) If the six-minute opacity of the plume exceeds the opacity standard, Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
(b) Report it as excess emissions.

d. Semi-annual Reporting Requirement

Permittee shall submit semi-annual reports to the Director of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ±30 percent from the average obtained during the most recent performance test. These reports shall be postmarked within 30 days following the end of the second and fourth calendar quarters. [40 CFR 60.385(c) and (d)]

C. Performance Testing Requirements

Permittee shall conduct particulate matter performance tests on the metallic mineral mining units subject to the requirements of this section in accordance with the following schedule :

Source ID 113 : Once within the first 365 day period following permit issuance
Source ID 001 : Once within 180 days of startup
Source ID 034 : Once within 180 days of startup
Source ID 101 : Once within 180 days of startup

These performance tests shall be conducted in accordance with Reference Method 5 or 17 in 40 CFR 60, Appendix A. [A.A.C. R18-2-306.A.3.c and R18-2-312]

D. Air Pollution Control Requirements

1. For each non-NSPS primary crusher:

[A.A.C. R18-2-306.A.3.c, A.A.C. R18-2-306.A.2 & R18-2-331]

a. Except as provided in condition II.D.1.b, Permittee shall operate the wet scrubbers associated with each non-NSPS primary crusher.

b. Permittee may temporarily shut down, for maintenance or repair purposes, a wet dust collector used to control particulate emissions from operating equipment that is either located within a building or enclosed below ground provided the following conditions are

met:

(1) Permittee continues to comply with the applicable emission standards in condition II.A.1;

(2) Permittee shall:
   (a) record the start time and date, anticipated downtime of the devices, cause of the downtime, and proposed corrective action. If the anticipated downtime is in excess of two days, Permittee shall report the anticipated downtime to ADEQ within 24 hours;
   (b) if the downtime goes beyond the anticipated end of downtime, Permittee shall report to ADEQ within 24 hours;
   (c) record the end times and dates of the maintenance procedure;

(3) Permittee keeps a record of the type of maintenance performed;

(4) For periods exceeding 12 hours, Permittee conducts the following actions:
   (a) Once every 24-hour period commencing from the time of initial shutdown, a Method 9 observation on the exterior of the building enclosing the relevant indoor equipment and/or in the exterior vicinity of the relevant underground equipment;
   (b) A record of the time, date, location, and results of the Method 9 observations;
   (c) If any of the Method 9 observation results indicate an exceedance of the applicable opacity standard, Permittee reports the excess emissions in accordance with Section XII of Attachment A.

2. At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, maintain and operate the wet scrubbers associated with each NSPS- subject primary crushers in a manner consistent with good air pollution control practice for minimizing particulate matter emissions. [40 CFR 60.11(d) & R18-2--331]

3. Permittee shall maintain and operate all other pollution control devices including spray bars, duct work and hoods used to capture particulate matter emissions, to meet the emission standards in condition II.A.1.

[A.A.C. R18-2-306.A.2 and 331]

E. Alternate Operating Scenario [A.A.C. R18-2-306.A.11]

1. Permittee may relocate one Sierrita Primary Crusher (source ID 001) to the Portable Primary Crusher housing (source ID 067) and operate the relocated crusher in accordance with Section II.A of this attachment.

2. Permittee shall install and operate a wet scrubber to control particulate emissions captured from the Portable Primary Crusher. Permittee shall also install water sprays to control fugitive emissions of particulate matter. [A.A.C. R18-2-306.A.2 and 331]

III. REQUIREMENTS FOR THE SECONDARY AND TERTIARY CRUSHING CIRCUITS

A. Non-New Source Performance Standard (Non-NSPS) Affected Facilities

Affected Facilities Subject to the Standards of Performance for Existing Nonferrous Metals Industry Sources *(Emission units marked "N" in the NSPS column of Section IV of Attachment "D" of this permit)* shall comply with the following:

1. Emission Limits and Standards

a. Particulate Matter Standard

(1) Standard Applicable Until A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County

[State SIP R9-3-521.A.2.a]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 17.31P^{0.16}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

(2) Standard Applicable On and After the Date A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County

[A.A.C. R18-2-721.B]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

Where E and P are defined as indicated in paragraph (1) above.

b. Visible Emissions - Opacity Standard [A.A.C. R18-2-702.B, and -702.C]]

(1) The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9.

(2) Where the presence of uncombined water is the only reason for the exceedance of this visible emissions requirement, such exceedance shall not constitute a violation.

2. Monitoring, Recordkeeping, and Reporting Requirements

a. Initial Requirement

Within 180 days of issuance of this permit or within 180 days of startup, Permittee shall conduct one certified Method 9 observation on the scrubbers while they are operating at normal representative working conditions to establish a baseline opacity level. Within 10 days of establishing the baseline opacity, Permittee shall report the results to the Director. [A.A.C. R18-2-306.A.3.c]

b. Daily Monitoring Requirement

Permittee shall record the daily process rate and hours of operation of all material handling facilities. [A.A.C. R18-2-721.F]

c. Bi-weekly (Every Two Weeks) Monitoring Requirement [A.A.C. R18-2-306.A.3.c]

(1) A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by condition III.A when they are in operation.

(2) For Point Sources Covered by condition III.A

(a) If the observer, during the visual survey, does not see a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location of the observation and results of the observation.

(b) If the observer sees a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(c) If the six-minute opacity of the plume is less than the baseline, then the observer shall make a record of the following:

i) Location, date, and time of the test; and
ii) The results of the Method 9 observation.

(d) If the six-minute opacity of the plume exceeds the baseline level but is less than the opacity standard, then Permittee shall adjust or repair the controls or equipment, as necessary, to reduce opacity to or below the baseline level. Permittee shall make a record of the following:

i) Location, date, and time of the test; and
ii) The results of the Method 9 observation.

(e) If the six-minute opacity of the plume exceeds both the baseline level and the opacity standard, then Permittee shall do the following:

i) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
ii) Report it as an excess emission for opacity.

(f) If corrective actions fail to reduce opacity to or below the baseline level, Permittee shall adopt the following course of action :

i) Document all corrective action; and
ii) Initiate procedures to re-establish the baseline within forty eight hours in accordance with subsection (h) below.

(g) Permittee shall conduct at least one Method 9 opacity test annually for each stack subject to the requirements of this section, if operated during the calendar year.

(h) If necessitated by the results of the bi-weekly monitoring, Permittee may re-establish the baseline opacity level. Re-establishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 10 days of re-establishing the baseline opacity, Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

(3) For Fugitive Sources Covered by this Section

(a) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location, and the results of the observation.

(b) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(c) If the six-minute opacity of the plume is less than the opacity standard, the observer shall make a record of the following:

i) Location, date, and time of the test; and
ii) The results of the Method 9 observation.

(d) If the six-minute opacity of the plume exceeds the opacity standard, then Permittee shall do the following:

i) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
ii) Report it as excess emissions.

[A.A.C. R18-2-306.A.3.c]

B. New Source Performance Standards (NSPS) Affected Facilities

Affected Facilities Subject to Subpart LL - Standards of Performance for Metallic Mineral Processing Plants, including equipment for which Permittee has voluntarily accepted NSPS emission limits and monitoring requirements, *(Emission units marked "Y" in the NSPS column of Section IV of Attachment "D" of this permit)* shall comply with the following:

1. Emission Limits and Standards

   a. Particulate Matter Standard

      Permittee shall not cause to be discharged into the atmosphere from an affected facility any stack emissions that contain particulate matter in excess of 0.05 grams per dry standard cubic meter. [40 CFR 60.382(a)(1)]

   b. Visible Emissions - Opacity Standard

      Permittee shall not cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.
      [40 CFR 60.382(b) and A.A.C. R18-2-331]

2. Monitoring, Record Keeping and Reporting

   a. Monitoring of Operations

      (1) For each scrubber, Permittee shall calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±250 pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with the manufacturer's instructions.
      [40 CFR 60.384(a)]

      (2) For each scrubber, Permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate and must be calibrated on an annual basis in accordance with the manufacturer's specifications.

      [40 CFR 60.384(b)]

   b. Weekly Recording Requirement

      Permittee shall record on a weekly basis the measurements of both the change in the pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.
      [40 CFR 60.385(b)]

   c. Bi-weekly (Every Two Weeks) Monitoring Requirement for Fugitive Sources Covered by condition III.B [A.A.C. R18-2-306.A.3.c]

      (1) A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by condition III.B when

they are in operation.

(2) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location, and the results of the observation.

(3) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(4) If the six-minute opacity of the plume is less than the opacity standard, then the observer shall make a record of the following:

(a) Location, date, and time of the test; and
(b) The results of the Method 9 observation.

(5) If the six-minute opacity of the plume exceeds the opacity standard, then Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
(b) Report it as excess emissions.

d. Semi-annual Reporting Requirement

Permittee shall submit semi-annual reports to the Director of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow rate differ by more than ±30 percent from the average obtained during the most recent performance test. These reports shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

[40 CFR 60.385(c) and (d) and 306.A.3.c]

C. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c and R18-2-312]

Permittee shall conduct particulate matter performance tests on the metallic mineral mining units subject to the requirements of Section III in accordance with the following schedule, beginning the first year of permit issuance:

Two Representative Samples from Source IDs 002-007 : The first 365 day period following permit issuance
Source ID 074 : The second 365 day period following permit issuance
Source ID 112 : The third 365 day period following permit issuance
One Representative Sample from Source IDs 035-036 : Once within 180 days of startup
One Representative Sample from Source IDs 039-040 : Once within 180 days of startup

These performance tests shall be conducted in accordance with Reference Method 5 or 17 in 40 CFR 60, Appendix A.

D. Air Pollution Control Requirements

1. For non-NSPS equipment :

[A.A.C. R18-2-306.A.2 & R18-2--331]

a. Except as provided in condition III.D.1.b, Permittee shall operate the wet scrubbers associated with the secondary and tertiary crushing circuits.

b. Permittee may temporarily shutdown, for maintenance or repair purposes, a wet dust collector used to control particulate emissions from operating equipment that is located within a building provided the following conditions are met:

(1) Permittee continues to comply with the applicable emission standards in condition III.A.1;

(2) Permittee shall:
(a) record the start time and date, anticipated downtime of the devices, cause of the downtime, and proposed corrective action. If the anticipated downtime is in excess of two days, Permittee shall report the anticipated downtime to ADEQ within 24 hours;
(b) if the downtime goes beyond the anticipated end of downtime, Permittee shall report to ADEQ within 24 hours;
(c) record the end times and dates of the maintenance procedure;

(3) Permittee keeps a record of the type of maintenance performed;

(4) For periods exceeding 12 hours, Permittee conducts the following actions:
(a) Once every 24-hour period commencing from the time of initial shutdown, a Method 9 observation on the exterior of the building enclosing the relevant indoor equipment;
(b) A record of the time, date, location, and results of the Method 9 observations;
(c) If any of the Method 9 observation results indicate an exceedance of the applicable opacity standard, Permittee reports the excess emissions in accordance with Section XII of Attachment A.

2. At all times, including periods of startup, shutdown, and malfunction, Permittee shall, to the extent practicable, maintain and operate the wet scrubbers associated with the secondary and tertiary crushing circuits in a manner consistent with good air pollution control practices for minimizing particulate matter emissions. [40 CFR 60.11(d) & R18-2--331]

3. Permittee shall maintain and operate all other pollution control devices including spray bars, duct work and hoods used to capture particulate matter emissions to meet the emission standards in condition III.A.1.

[A.A.C. R18-2-306.A.2 and R18-2- 331]

IV. REQUIREMENTS FOR FINE ORE STORAGE AND HANDLING

A. Non-New Source Performance Standard (Non-NSPS) Affected Facilities

Affected Facilities Subject to the Standards of Performance for Existing Nonferrous Metals Industry

Sources *(Emission units marked "N" in the NSPS column of Section V of Attachment "D" of this permit)* shall comply with the following:

1. Emission Limits and Standards

a. Particulate Matter Standard

(1) Standard Applicable Until A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County

[State SIP R9-3-521.A.2.a]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 17.31P^{0.16}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

(2) Standard Applicable On and After the Date A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County

[A.A.C. R18-2-721.B]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 55.0P^{0.11} - 40$

Where E and P are defined as indicated in paragraph (1) above.

b. Visible Emissions - Opacity Standard [A.A.C. R18-2-702.B]

(1) The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9.

(2) Where the presence of uncombined water is the only reason for the exceedance of this visible emissions requirement, such exceedance shall not constitute a violation.

2. Monitoring, Recordkeeping, and Reporting Requirements

a. Initial Requirement

Within 180 days of issuance of this permit, Permittee shall conduct one certified Method 9 observation on each scrubber while they are operating at normal representative working conditions to establish a baseline opacity level. Within 30 days of establishing the baseline opacity, Permittee shall report the results to the Director.

[A.A.C. R18-2-306.A.3.c]

b. Daily Monitoring Requirement

Permittee shall record the daily process rate and hours of operation of all material handling facilities. [A.A.C. R18-2-721.F]

c. Bi-weekly (Every Two Weeks) Monitoring Requirement [A.A.C. R18-2-306.A.3.c]

(1) A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by this section when they are in operation.

(2) For Point Sources Covered by this Section

(a) If the observer, during the visual survey, does not see a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location of the observation and results of the observation.

(b) If the observer sees a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(c) If the six-minute opacity of the plume is less than the baseline, then the observer shall make a record of the following:

i) Location, date, and time of the test; and
ii) The results of the Method 9 observation.

(d) If the six-minute opacity of the plume exceeds the baseline level but is less than the opacity standard, Permittee shall adjust or repair the controls or equipment, as necessary, to reduce opacity to or below the baseline level. Permittee shall make a record of the following:

i) Location, date, and time of the test; and
ii) The results of the Method 9 observation.

(e) If the six-minute opacity of the plume exceeds both the baseline level and the opacity standard, then Permittee shall do the following:

i) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and

ii) Report it as an excess emission for opacity.

(f) If corrective actions fail to reduce opacity to or below the baseline level, then Permittee shall adopt the following course of action :

i) Document all corrective action; and
ii) Initiate procedures to re-establish the baseline within forty eight hours in accordancewith subsection (h).

(g) Permittee shall conduct at least one Method 9 opacity test annually for each stack subject to the requirements of this section.

(h) If necessitated by the results of the bi-weekly monitoring, Permittee may re-establish the baseline opacity level. Re-establishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

(3) For Fugitive Sources Covered by this Section

(a) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

(b) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(c) If the six-minute opacity of the plume is less than the opacity standard, the observer shall make a record of the following:

i) Location, date, and time of the test; and
ii) The results of the Method 9 observation.

(d) If the six-minute opacity of the plume exceeds the opacity standard, Permittee shall do the following:

i) adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
ii) and report it as excess emissions.

B. Air Pollution Control Requirements

1. The following conditions shall apply :

[A.A.C.R18-2-306.A.2 & R18-2--331]

a. Except as provided in condition IV.B.1.b, Permittee shall operate the wet scrubbers and baghouses associated with fine ore storage and handling.

b. Permittee may temporarily shutdown, for maintenance or repair purposes, a wet dust collector or baghouse used to control particulate emissions from operating equipment that is located within a building provided the following conditions are met:

(1) Permittee continues to comply with the applicable emission standards in condition IV.A.1;

(2) Permittee shall:
(a) record the start time and date, anticipated downtime of the devices, cause of the downtime, and proposed corrective action. If the anticipated downtime is in excess of two days, Permittee shall report the anticipated downtime to ADEQ within 24 hours;
(b) if the downtime goes beyond the anticipated end of downtime, Permittee shall report to ADEQ within 24 hours;
(c) record the end times and dates of the maintenance procedure;

(3) Permittee keeps a record of the type of maintenance performed;

(4) For periods exceeding 12 hours, Permittee conducts the following actions :

(a) Once every 24-hour period commencing from the time of initial shutdown, a Method 9 observation on the exterior of the building enclosing the relevant indoor equipment;
(b) A record of the time, date, location, and results of the Method 9 observations;
(c) If any of the Method 9 observation results indicate an exceedance of the applicable opacity standard, Permittee reports the excess emissions in accordance with Section XII of Attachment A.

2. Permittee shall maintain and operate spray bars, duct work and hoods used to minimize particulate matter emissions to meet the emission standards in condition IV.A.1.

[A.A.C. R18-2-306.A.2 & R18-2- 331]

V. REQUIREMENTS FOR THE MOLYBDENUM PLANT

A. Emission Limits and Standards

1. Particulate Matter Standard [State SIP R9-3-521.A.2.b and -c]

a. Standard Applicable Until A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County.

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

For Process Sources Having Process Weight Rates Less than 30 Tons per Hour:

$E = 3.59P^{0.62}$

For Process Sources Having a Process Weight Rate Greater than 30 Tons per Hour:

$E = 17.31P^{0.16}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

b. Standard Applicable On and After the Date A.A.C R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

For Process Sources Having Process Weight Rates Less than 30 Tons per Hour:

$E = 4.10P^{0.67}$

For Process Sources Having a Process Weight Rate Greater than 30 Tons per Hour:

$E = 55.0P^{0.11} - 40$

Where E and P are defined as indicated in paragraph V.A.1.a above.

2. Visible Emissions - Opacity Standard

a. The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

b. Where the presence of uncombined water is the only reason for the exceedence of this visible emissions requirement, such exceedence shall not constitute a violation.

[A.A.C. R18-2-702.C]

3. Reduced Sulfur Standard

Permittee shall not cause, allow or permit to be discharged into the atmosphere from any dryer or roaster the operating temperature of which exceeds 700 ^{o}F., reduced sulfur in excess of ten percent of the sulfur entering the process as feed. Reduced sulfur includes sulfur equivalent from all sulfur emissions including sulfur dioxide, sulfur trioxide, and sulfuric acid.

[A.A.C. R18-2-721.E]

B. Monitoring, Recordkeeping, and Reporting Requirement

1. Initial Requirement

Within 180 days of issuance of this permit, Permittee shall conduct one certified Method 9 observation on the scrubbers and baghouses while they are operating at normal representative working conditions to establish a baseline opacity level.

[A.A.C. R18-2-306.A.3.c]

2. Daily Monitoring Requirement

Permittee shall record the daily process rate and hours of operation of all material handling facilities. [A.A.C. R18-2-721.F]

3. Bi-weekly (Every Two Weeks) Monitoring Requirement [A.A.C. R18-2-306.A.3.c]

a. A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by this section when they are in operation.

b. For Point Sources Covered by this Section

(1) If the observer, during the visual survey, does not see a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location of the observation and results of the observation.

(2) If the observer sees a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(3) If the six-minute opacity of the plume is less than the baseline, the observer shall make a record of the following:

(a) Location, date, and time of the test; and
(b) The results of the Method 9 observation.

(4) If the six-minute opacity of the plume exceeds the baseline level but is less than the opacity standard, Permittee shall adjust or repair the controls or equipment, as necessary, to reduce opacity to or below the baseline level. Permittee shall make a record of the following:

(a) Location, date, and time of the test; and
(b) The results of the Method 9 observation.

(5) If the six-minute opacity of the plume exceeds both the baseline level and the opacity standard, then Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to or below the baseline level; and
(b) Report it as an excess emission for opacity.

(6) If corrective actions fail to reduce opacity to or below the baseline level, Permittee shall adopt the following course of action :

(a) Document all corrective action; and
(b) Initiate procedures to re-establish the baseline within forty eight hours in accordancewith subsection (8).

(7) Permittee shall conduct at least one Method 9 opacity test annually for each stack subject to the requirements of this section.

(8) If necessitated by the results of the bi-weekly monitoring, Permittee may re-establish the baseline opacity level. Re-establishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 10 days of re-establishing the baseline opacity, Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

c. For Fugitive Sources Covered by this Section

(1) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

(2) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(3) If the six-minute opacity of the plume is less than the opacity standard, the observer shall make a record of the following:

(a) Location, date, and time of the test; and
(b) The results of the Method 9 observation.

(4) If the six-minute opacity of the plume exceeds the opacity standard, Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
(b) Report it as excess emissions.

[A.A.C. R18-2-306.A.3.c]

4. Molybdenum Roasting Sulfur Monitoring and Recordkeeping [A.A.C. R18-2-306.A.3.c]

a. Normal Operation

The pH of each scrubber underflow shall be measured four times per operating day. If the pH of the scrubber underflow is below 3.5 standard units (s.u.), the operator shall conduct a confirming pH measurement within three minutes. If that measurement is below pH 3.5

s.u., Permittee shall discontinue molybdenum sulfide feed to the affected roaster and emissions from the affected roaster will be vented to the unaffected roaster offgas system as soon as possible. If roaster offgas system maintenance is necessary, the Scrubber/Equipment Maintenance Operating Procedures described below will be initiated. Otherwise, within 30 minutes after repairs are completed and normal operations begins, the operator shall verify the scrubber pH level is greater than 3.5 s.u. and record the pH measurement.

b. Scrubber/Equipment Maintenance Operating Procedures

(1) When planned maintenance activities require the implementation of the Scrubber/Equipment Maintenance Operating Procedures, Permittee shall record the time when feed to the affected roaster is discontinued and the time when feed is resumed.

(2) Within 30 minutes of switching from Scrubber/Equipment Maintenance Operating Procedures to Normal Operation, the operator shall make a thorough inspection of all equipment in the roaster offgas system, consisting of the roaster and each piece of subsequent control equipment, to confirm equipment settings. This shall include verification that all gates are seated, the scrubber slurry pumps are in operation and the scrubber pH level is greater than 3.5 s.u.. The results of the inspection shall be recorded.

c. Permittee shall sample and analyze the molybdenum sulfide concentrate feed sulfur content daily. Permittee shall record and maintain daily logs of the sulfur contained in the feed and the feed rate to each roaster.

d. Permittee shall maintain a log of roaster operations and the operation of each component of roaster offgas system.

C. Performance Testing Requirements [A.A.C. R18-2-306.A.3.c and -312]

1. Molybdenum Roaster - Main Stack

a. Permittee shall conduct annual performance tests for particulate matter from the molybdenum roasters. These performance tests shall be conducted in accordance with Reference Method 5 or 17 in 40 CFR 60, Appendix A.

b. Permittee shall conduct an annual performance test for sulfur emissions from the molybdenum roasters. A sample of the inlet molybdenum feed shall be sampled during the performance test. The sample of the inlet molybdenum feed shall be analyzed for sulfur content. The roaster performance tests shall be conducted in accordance with Reference Method 6 in 40 CFR 60, Appendix A. The pH of the scrubber slurry underflow shall be recorded during the performance test and reported as part of the test results.

2. Molybdenum Roaster - Maintenance Stack

a. Permittee shall conduct roaster profile tests and Feed Termination Delay tests, as described below, if the roaster off-gases have been vented to the maintenance stack at any time in the current or preceding calendar year.

b. Permittee shall conduct a semi-annual roaster profile test to determine the feed termination delay time required for 90 percent of the sulfur in the feed to be removed, if the off-gases from the idled roaster are vented to the maintenance stack. The following procedures shall be used in conducting the roaster profile test:

(1) Under normal operating conditions, maintain the roaster feed at a constant rate.

(2) Obtain samples of the roaster feed and the discharge of each hearth in the roaster, and analyze each sample for sulfur content.

(3) Calculate the time required to capture 90 percent of the sulfur in the feed.

(4) The new data generated through the semi-annual roaster profile shall be added to the existing database to determine the Feed Termination Delay time using statistical analysis, specifically a 't' distribution test with a 99 percent confidence level.

c. The results of the semi-annual roaster profile test shall be verified using the Feed Termination Delay test. This test shall be conducted annually, and as follows:

(1) Under normal operating conditions, the roaster off-gas shall be sampled for sulfur concentration. The roaster off-gas shall be sampled and analyzed in accordance with EPA Reference Methods 6 or 6C and 8.

(2) All samples shall be taken from a sampling point prior to the lime slurry scrubber.

(3) A sample of the roaster feed shall be taken concurrently with the termination of the roaster feed, and analyzed for sulfur content.

(4) The sampling period shall begin after the roaster feed is terminated.

(5) The sampling period shall end when the concentration of sulfur at the sampling point is less than ten percent of the initial concentration.

(6) The off-gas sulfur concentration shall be compared to the sulfur content in the feed to verify the sulfur profile test results.

D. Air Pollution Control Requirements [A.A.C. R18-2-306.A.2, A.A.C. R18-2-721.E, and R18-2-331]

1. Permittee shall maintain and operate the wet scrubbers, the cyclones, the mist eliminators and the electrostatic precipitators associated with the molybdenum plant to minimize particulate matter emissions.

2. Permittee shall maintain and operate all other pollution control devices including spray bars, duct work and hoods in the molybdenum plant to minimize particulate matter emissions.

3. Permittee shall discontinue molybdenum sulfide feed to the affected roaster for the feed termination delay time prior to scrubber/equipment maintenance, if off-gases are to be vented to the maintenance stack.

4. Off-gases from the idled roaster shall be vented to:

a. the operating roaster train, or
b. the maintenance stack only after the feed termination delay time has elapsed.

5. The feed termination delay time shall be determined through the semi-annual roaster profile and verified through the annual Feed Termination Delay Test, and shall be posted in the molybdenum roaster control room. The feed termination delay time is defined as the amount of time for 90 percent of the reduced sulfur in the roaster feed to be removed.

6. Roof mode operation is prohibited. Roof mode means to vent roaster off-gas directly to the atmosphere through stacks in the roof of each roaster.

7. The following shall apply to the Moly Sulfide Baghouse (Source ID 042) and the Moly Oxide Baghouse (Source ID 048):

[A.A.C. R18-2-306.A.2 and R18-2-331]

a. Except as provided in condition V.D.7.b, Permittee shall operate the baghouses.

b. Permittee may temporarily shut down, for maintenance or repair purposes, a baghouse used to control particulate emissions from material handling equipment when no visible emissions occur provided the following conditions are met:

(1) Permittee continues to comply with the applicable emission standards in condition V.A.1;

(2) Permittee shall:
(a) record the start time and date, anticipated downtime of the devices, cause of the downtime, and proposed corrective action. If the anticipated downtime is in excess of two days, Permittee shall report the anticipated downtime to ADEQ within 24 hours;
(b) if the downtime goes beyond the anticipated end of downtime, Permittee shall report to ADEQ within 24 hours;
(c) record the end times and dates of the maintenance procedure;

(3) Permittee keeps a record of the type of maintenance performed;

(4) For periods exceeding 12 hours, Permittee conducts the following actions:
(a) Once every 24-hour period commencing from the time of initial shutdown, a Method 9 observation on the material handling equipment;
(b) A record of the time, date, location, and results of the Method 9 observations;
(c) If any of the Method 9 observation results indicate an exceedance of the applicable opacity standard, Permittee reports the excess emissions in accordance with Section XII of Attachment A.

E. Alternate Operating Scenario [A.A.C. R18-2-306.A.11]

1. In lieu of Conditions V.B.4, V.C.1.b, V.C.2, V.D.3, V.D.4.b, and V.D.5 [the "feed termination delay procedures"], Permittee may demonstrate compliance with the sulfur capture requirements of A.A.C. R18-2-721.E (and A.A.C. R9-3-521 as approved into the Arizona SIP) through the use of a continuous monitoring system to measure sulfur dioxide emissions from the main stack and a measurement of input sulfur to the roasters.

[A.A.C. R18-2-306.A.3.c]

2. Permittee shall submit a quality assurance/quality control plan for the operation of the sulfur dioxide continuous monitoring system and the measurement of roaster input sulfur to the Director at least 30 days prior to implementation of the alternate operating scenario. When approved by the Director, the plan may be implemented.

[A.A.C. R18-2-306.A.3.c]

VI. REQUIREMENTS FOR THE NATURAL GAS FIRED HEATERS AND BOILERS

A. Emission Limits and Standards

1. Particulate Matter Standard [A.A.C. R18-2-724.C.1]

Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel in the heaters or boilers in excess of the amount calculated by the following equation:

$E = 1.02\ Q^{0.769}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
Q = the heat input in million Btu per hour.

2. Visible Emissions - Opacity Standard [A.A.C. R18-2-724.J]

Permittee shall not cause, allow or permit to be emitted into the atmosphere from the heaters or boilers, smoke which exceeds 15 percent opacity.

3. Fuel Limitation [A.A.C. R18-2-306.A.2]

Permittee shall burn only natural gas or propane as fuel in the heaters and boilers.

B. Monitoring, Record Keeping and Reporting

1. Permittee shall report all six-minute periods in which the opacity of any plume or effluent exceeds 15 percent from the heaters and boilers. [A.A.C. R18-2-724.J]

2. Permittee shall maintain a vendor-approved copy of that part of the Federal Energy Regulatory Commission (FERC) approved Tariff agreement that contains the sulfur content and the lower heating value of the pipeline quality natural gas. [A.A.C. R18-2-306.A.3]

VII. REQUIREMENTS FOR THE LIME HANDLING FACILITY

A. Emission Limitations/Standards

1. Particulate Matter Standard

a. Standard Applicable Until A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County

[State SIP R9-3-521.A.2.a]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in any one hour from any process source in total quantities in excess of the amount calculated by the following equation:

$E = 3.59P^{0.62}$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour
P = the process weight rate in tons-mass per hour.

b. Standard Applicable On and After the Date A.A.C. R18-2-721.B Is Approved as Part of the State Implementation Plan for Pima County

[A.A.C. R18-2-721.B]

Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere from any of the equipment in any one hour in total quantities in excess of the amount calculated by the following equation:

$E = 4.10P^{0.67}$

Where E and P are defined as indicated in paragraph (a) above.

2. Visible Emissions - Opacity Standard [A.A.C. R18-2-702.B]

The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9.

B. Air Pollution Control Requirements

1. Permittee shall operate the wet scrubber associated with the lime handling facility.

[A.A.C. R18-2-306.A.2 & R18-2- 331]

2. Permittee shall maintain and operate at all times all other pollution control devices including spray bars, duct work and hoods used to capture particulate matter emissions.

[A.A.C. R18-2-306.A.2 & R18-2- 331]

C. Monitoring, Recordkeeping, and Reporting Requirements

1. Initial Requirement

Within 180 days of issuance of this permit, Permittee shall conduct one certified Method 9 observation on the wet scrubber at the lime handling facility while it is operating at normal representative working conditions to establish a baseline opacity level. Within 30 days of establishing the baseline opacity, Permittee shall report the results to the Director.

[A.A.C. R18-2-306.A.3.c]

2. Bi-weekly (Every Two Weeks) Monitoring Requirement [A.A.C. R18-2-306.A.3.c]

a. A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the metallic mineral mining units covered by Section VII when they are in operation.

b. For Point Sources Covered by Section VII

(1) If the observer, during the visual survey, does not see a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location of the observation and results of the observation.

(2) If the observer sees a plume from the point source that on an instantaneous basis appears to exceed the baseline level, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(3) If the six-minute opacity of the plume is less than the baseline, the observer shall make a record of the following:

(a) Location (stack identification), date, and time of the test; and
(b) The results of the Method 9 observation.

(4) If the six-minute opacity of the plume exceeds the baseline level but is less than the opacity standard, then Permittee shall adjust or repair the controls or equipment, as necessary, to reduce opacity to or below the baseline level. Permittee shall make a record of the following:

(a) Location (stack identification), date, and time of the test; and
(b) The results of the Method 9 observation.

(5) If the six-minute opacity of the plume exceeds both the baseline level and the opacity standard, then Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to below the baseline level; and
(b) Report it as an excess emission for opacity.

(6) If corrective actions fail to reduce opacity to or below the baseline level, Permittee shall adopt the following course of action :

(a) Document all corrective action; and
(b) Initiate procedures to re-establish the baseline within forty eight hours in accordancewith subsection (8).

(7) Permittee shall conduct at least one Method 9 opacity test annually for each stack subject to the requirements ofSection VII.

(8) If necessitated by the results of the bi-weekly monitoring, Permittee may re-establish the baseline opacity level. Re-establishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

c. For Fugitive Sources Covered by Section VII [A.A.C. R18-2-306.A.3.c]

(1) If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location, and the results of the observation.

(2) If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

(3) If the six-minute opacity of the plume is less than the opacity standard, then the observer shall make a record of the following:

(a) Location, date, and time of the test; and
(b) The results of the Method 9 observation.

(4) If the six-minute opacity of the plume exceeds the opacity standard, then Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
(b) Report it as excess emissions.

VIII. REQUIREMENTS FOR THE ROAD ROCK CRUSHING PLANT

A. Emission Limitations/Standards

Visible Emissions - Opacity Standard [A.A.C. R18-2-702.B]

The opacity of emissions from any of the equipment into the atmosphere shall not be greater than 40 percent as measured by EPA Reference Method 9.

B. Air Pollution Control Requirements

1. Permittee shall maintain and operate at all times the spray bars used to reduce particulate matter emissions. [A.A.C. R18-2-306.A.2 & R18-2-331]

2. Spray bar pollution controls shall be utilized in accordance with "EPA Control of Air Emissions From Process Operation In The Rock Crushing Industry" (EPA 340/1-79-002), "Wet Suppression System" (pages 15-34), amended as of January, 1979 (and no future amendments or editions), as incorporated herein by reference and on file with the Office of the Secretary of State, with placement of spray bars and nozzles as required by the Director to minimize air pollution. [A.A.C. R18-2-722.D]

C. Monitoring, Recordkeeping, and Reporting Requirements

1. Permittee shall record the daily production rate of the Road Rock Crushing Plant.
[A.A.C. R18-2-722.G and -306.A.3.c]

2. Bi-weekly Monitoring for Fugitive Sources Covered by Section VIII
[A.A.C. R18-2-306.A.3.c]

a. A certified Method 9 observer shall conduct a bi-weekly visual survey of visible emissions from the units covered by Section VIII when they are in operation.

b. If the observer, during the visual survey, does not see any plume from any fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

c. If the observer sees a plume from a fugitive source that on an instantaneous basis appears to exceed the opacity standard, then the observer shall, if practicable, take a six-minute Method 9 observation of the plume.

d. If the six-minute opacity of the plume is less than the opacity standard, the observer shall make a record of the following:

(1) Location, date, and time of the test; and
(2) The results of the Method 9 observation.

e. If the six-minute opacity of the plume exceeds the opacity standard, then Permittee shall do the following:

(1) Adjust or repair the controls or equipment to reduce opacity to below the opacity standard; and
(2) Report it as excess emissions.

IX. REQUIREMENTS FOR THE SOLUTION EXTRACTION AND ELECTROWINNING (SX/EW) AND TWIN BUTTES ELECTROWINNING TANKHOUSE PROCESS

A. Emission Limitations/Standards

1. Permittee shall not cause the emission of gaseous or odorous materials from equipment and operations associated with the processes described in Section IX in such quantities or concentrations as to cause air pollution. [A.A.C. R18-2-730.D]

2. Materials including solvents or other volatile compounds, acids, and alkalies utilized in the processes described in Section IX shall be processed, stored, used, and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage, or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory. [A.A.C. R18-2-730.F]

3. Where a stack, vent or other outlet is at such a level that fumes, gas, mist, odor, smoke, vapor, or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by Permittee thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to the adjoining property.

[A.A.C. R18-2-730.G]

B. Air Pollution Control Requirements [A.A.C. R18-2-306.A.2 and R18-2- 331]

1. Permittee shall maintain the existing covers on the mixer settler tanks to control emissions from

the Solution Extraction Plant.

2. Permittee shall use one or more of the following methods to control emissions from the Electrowinning Tankhouse:

   a. Foam;
   b. Blankets;
   c. Surfactants;
   d. Thermal retention balls; or
   e. Other effective means of controlling sulfuric acid emissions approved by the Director.

C. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

Permittee shall maintain a record of the control measures used at the SX/EW plant.

X. REQUIREMENTS FOR THE GASOLINE TANKS

Permittee shall equip all gasoline tanks with a submerged filling device, or acceptable equivalent, for the control of hydrocarbon emissions. [A.A.C. R18-2-710.B]

XI. REQUIREMENTS FOR NON-POINT SOURCES

A. Open Areas, Roadways and Streets, Material Handling, Storage Piles

1. Emission Limitations/Standards

   a. Permittee shall not cause, allow or permit visible emissions from open areas, roadways and streets, storage piles or material handling in excess of 40 % opacity measured in accordance with the Arizona Testing Manual, Reference Method 9. [A.A.C.R18-2-612]

   b. Permittee shall employ at least one of the following reasonable precautions, or any other method as proposed by Permittee and approved by the Director (following compliance with any applicable air permit revision mechanism), to prevent excessive amounts of particulate matter from becoming airborne:

      (1) Use dust suppressants or soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, or barring access when constructing, using, altering, repairing, demolishing, clearing, or leveling a building or its appurtenances, a driveway, a parking area, or a vacant lot, or when moving or excavating earth.

      In addition to the above, the following have been identified as reasonable precautions:

      Applying wetting agents, stemming, optimizing blast pattern, controlling oxygen balance of explosives during blast operations, minimize material drop height, temporary paving, road cover, controlling vehicle access, limiting vehicle speed, revegetation, hydro-seeding, hydro-mulching, mulching, wet sweeping, vacuuming, wind fence, wind break, shrouding, skirting, enclosing, contouring, animals, soil adhesives, compaction, agglomeration, inherent moisture content, and encrustation.

      [A.A.C.R18-2-604.A]

(2) Apply temporary paving, dust suppressants, wetting down, or detouring when using, repairing, constructing or reconstructing a roadway.

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, controlling vehicle access, limiting vehicle speed, revegetation, hydro-seeding, hydro-mulching, mulching, landscaping, wet sweeping, vacuum, wind fence, wind break, covering, contouring, usage of soil adhesives, usage of soil stabilizers, compaction, usage of decomposed granite, agglomeration, inherent moisture content, and encrustation.

[A.A.C.R18-2-605.A]

(3) Apply dust suppressants, wetting, or cover the load when transporting materials likely to give rise to airborne dust.

In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, minimizing material drop height, limiting vehicle speed, wind break, covering, agglomeration, inherent moisture content, and encrustation.

[A.A.C.R18-2-605.B]

(4) Use spray bars, wetting, wetting agents, dust suppressants, covers, or hoods when crushing, screening, handling, transporting, or conveying material that is likely to result in significant amounts of airborne dust.

In addition to the above, the following have been identified as reasonable precautions:

Minimizing material drop height, wind fence, wind break, shrouding, skirting, enclosing, contouring, inherent moisture content, and agglomeration.

[A.A.C.R18-2-606]

(5) Use chemical stabilization, wetting, or covering when stacking, piling or otherwise storing organic or inorganic dust-producing material.

In addition to the above, the following have been identified as reasonable precautions:

Wind fence, wind break, shrouding, skirting, enclosing, covering, contouring, agglomeration, inherent moisture content, and encrustation.

[A.A.C.R18-2-607.A]

(6) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents.

In addition to the above, the following have been identified as reasonable precautions:

Wetting, wind fence, wind break, shrouding, skirting, enclosing, covering, contouring, inherent moisture content, and agglomeration.

[A.A.C.R18-2-607.B]

(7) Use wetting, chemical stabilization, or revegetation when constructing mineral tailing

piles.

[A.A.C. R18-2-608]

(a) In addition to the above, the following have been identified as reasonable precautions:

Applying wetting agents, maximizing the wet surface area, barring or controlling vehicle access, limiting vehicle speed, hydro-seeding, hydro-mulching, mulching, landscaping, wind fence, wind break, covering, contouring, animals, soil adhesives, soil stabilizers, compaction, usage of decomposed granite, agglomeration, and encrustation.

[A.A.C. R18-2-608]

(b) Permittee shall comply with all aspects of the January 11, 1999 Tailings Impoundment Dust Control Management Plan and subsequent revisions.

[Order of Abatement A-174-97, A.A.C. R18-2-608]

(8) Use wetting agents or dust suppressants before the cleaning of any site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

In addition to the above, the following have been identified as reasonable precautions:

Wetting, chip seal, gravel, temporary paving, controlling vehicle access, limiting vehicle speed, revegetation, inherent moisture content, and hydro-seeding.

[A.A.C.R18-2-804.B]

2. Monitoring, Reporting, and Recordkeeping

a. Permittee shall maintain records of the dates on which any of the activities listed in conditions XI.A.1.b.(1) through (8) of this Attachment were performed and control measures employed. [A.A.C R18-2-306.A.3.c]

b. In lieu of condition XI.A.2.a above, Permittee may maintain a Non-Point Source Monitoring Plan as a means of monitoring and recordkeeping for any of the activities listed in XI.A.1.b.(1) through (8) of this Attachment. [A.A.C R18-2-306.A.3.c]

(1) If the Non-Point Source Monitoring Plan has not been submitted to the Director as part of the Class I application form, Permittee may submit a significant revision pursuant to A.A.C. R18-2-320 stating an intent to rely on a Non-Point Source Monitoring Plan. The Non-Point Source Monitoring Plan shall be submitted with the Significant Revision application.

(2) The Non-Point Source Monitoring Plan shall describe the methods Permittee will use to comply with the requirements of Section XI. The plan shall contain the following minimum elements of information :

(a) Types of control measures employed on an activity-specific basis;
(b) Frequency of application of control measures; and
(c) A system for documenting variations from the strategy outlined in the Non-Point Source Monitoring Plan.

(3) If Permittee relies on "inherent moisture content" as a reasonable precaution for minimizing particulate emissions caused by traffic over haul roads, the dates of the period for which this control measure was used shall be recorded.

(4) Permittee may add any method listed in conditions XI.A.1.b.(1) through (8) to the list of control methods identified in the Non Point Source Monitoring Plan. Such changes shall be recorded, and a notification shall be sent to the Director within 10 days following the change. In addition, Permittee may add any method approved hereafter by the Director pursuant to condition XI.A.1.b to the list of control methods identified in the Non Point Source Monitoring Plan by complying with the applicable permitting mechanism if a permit revision is required, and in any other case by recording the change, and providing a notification to the Director within 10 days following the change.

c. Permittee shall complete the Tailings Impoundment Environmental Activities Report weekly. This report shall include, when applicable, the current area of tailings deposition, the number of loads applied for each water truck, location of cattle which are part of the Holistics Resource Management plan, the areas of hydroseeding, and the areas of chemical dust suppressant application. [A.A.C. R18-2-306.A.3.c]

d. Any changes in the Tailings Impoundment Management Plan shall be recorded, and a notification shall be sent to the Director within 10 days following the change. [A.A.C. R18-2-306.A.3.c]

e. Bi-weekly Monitoring Requirement

(1) Within 180 days of issuance of this permit, Permittee shall submit a visual observation plan to be approved by the Department. The observation plan shall identify a central lookout station or multiple observation points, as appropriate, from where the non point sources shall be monitored. When multiple observation points are used, all the non point sources associated with each observation point shall be specifically identified within the observation plan.

(2) The certified Method 9 observer shall conduct a bi-weekly (once in two weeks) visual survey of visible emissions from the non-point sources when they are in operation in accordance with the observation plan. Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

(3) If the observer sees a plume from a non-point source that on an instantaneous basis appears to exceed 40%, then the observer, shall if practicable, take a six-minute Method 9 observation of the plume.

(4) If the six-minute opacity of the plume is less than 40%, then the observer shall make a record of the following:

(a) Location, date, and time of the observation; and
(b) The results of the Method 9 observation.

(5) If the six-minute opacity of the plume exceeds 40%, then Permittee shall do the

following:

(a) Adjust or repair the controls or equipment to reduce opacity to below 40%; and
(b) Report it as an excess emission under Section XI.A of Attachment "A".

(6) Any changes to the observation plan, originally approved by the Department, shall be made only with the prior approval of the Director.

[A.A.C. R18-2-306.A.3.c]

B. Open Burning [A.A.C. R18-2-602]

1. Emission Limitations/Standards

Except as provided in A.A.C. R18-2-602.C(1), C(3), and C(4), and except when permitted to do so by either ADEQ or the local officer delegated the authority for issuance of open burning permits Permittee shall not conduct open burning.

2. Monitoring, Recordkeeping, and Reporting Requirements

Permittee shall maintain copies of all open burning permits readily available for inspection on file.

XII. Requirements for Other Periodic Activities

A. Abrasive Blasting

1. Visible Emissions

a. Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 40 percent opacity as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

b. Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

(1) wet blasting;
(2) effective enclosures with necessary dust collecting equipment;
(3) use of slag products; or
(4) any other method as approved by the Director. [A.A.C. R18-2-726]

2. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

a. Each time an abrasive blasting project is conducted, Permittee shall log in ink or in an unchangeable electronic format, a record of the following:

(1) The date the project was conducted;
(2) The duration of the project; and
(3) Type of control measures employed.

b. In lieu of condition XII.A.2.a, Permittee may maintain a section called "Abrasive Blasting

Plan" within the Non-Point Source Monitoring Plan referenced in Condition XI.A.1.b.(2), (a) through (c).

B. Spray Painting Operations

1. Opacity Standards

Visible emissions from spray painting operations shall not have an opacity greater than 40 percent, measured in accordance with by EPA Reference Method 9. [A.A.C. R18-2-702.B]

2. Volatile Organic Compounds

a. Emission Limitations/Standards

While performing spray painting operations Permittee shall comply with the following requirements:

(1) Permittee shall not conduct any spray painting operation without minimizing organic solvent emissions. Such operations other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray. [A.A.C. R18-2-727.A]

(2) Permittee shall not either:
(a) Employ, apply, evaporate or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or
(b) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C. R18-2-727.B]

(3) For the purposes of parts (2) and (5) of this condition, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in paragraphs (a) through (c) of this subsection, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

(a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones : five percent
(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: eight percent
(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent [A.A.C. R18-2-727.C]

(4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in subsection c(1) through c(3) of this condition, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents. [A.A.C. R18-2-727.D]

(5) Permittee shall not dispose by evaporation more than 1.5 gallons of photochemically reactive solvent in any one day.

[SIP Provision R9-3-527.C]

b. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

(1) Each time a spray painting project is conducted, Permittee shall log in ink or in an unchangeable electronic format, a record of the following:

(a) The date the project was conducted;
(b) The duration of the project;
(c) Type of control measures employed; and
(d) The location of Material Safety Data Sheets for all paints and solvents used in the project.

(2) In lieu of Condition XII.b.2.b.(1), Permittee may maintain a section called "Spray Painting Plan" within the Non-Point Source Monitoring Plan referenced in Condition XI.A.1.b.(2), (a) through (c).

(3) Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of part (1) above.

C. Mobile Sources

1. The requirements of this condition are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or are agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.84. [A.A.C. R18-2-801]

2. Emission Limitations/Standards for Roadway and Site Cleaning Machinery

Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-804.A]

D. Demolition/Renovation

1. Emission Limitations/Standards

Permittee shall comply with the applicable requirements of 40 CFR 61, Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos). [A.A.C. R18-2-1101.A.8]

2. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

Permittee shall keep all required records in a file. The required records include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

E. Nonvehicle Air Conditioner Maintenance and/or Services

1. Emission Limitations/Standards

Permittee shall comply with the applicable requirements of 40 CFR 82 - Subpart F (Protection of Stratospheric Ozone - Recycling and Emissions Reduction).

[40 CFR 82, Subpart F]

2. Monitoring, Recordkeeping, and Reporting Requirements [A.A.C. R18-2-306.A.3.c]

Permittee shall keep all records required by the applicable requirements of 40 CFR 82 - Subpart F in a file.

ATTACHMENT "C": APPLICABLE REQUIREMENTS

AIR QUALITY CONTROL PERMIT NO. M190699P2-99
FOR
PHELPS DODGE SIERRITA INCORPORATED

REQUIREMENTS SPECIFICALLY IDENTIFIED AS APPLICABLE

Compliance with the terms contained in this permit shall be deemed compliance with the following federally applicable requirements in effect on the date of permit issuance:

ARIZONA ADMINISTRATIVE CODE (A.A.C.) TITLE 18, Chapter 2

ARTICLE 6	**EMISSIONS FROM EXISTING AND NEW NONPOINT SOURCES**
R18-2-601	General
R18-2-602	Unlawful Open Burning
R18-2-604	Open Areas, Dry Washes, or Riverbeds
R18-2-605	Roadways and Streets
R18-2-606	Material Handling
R18-2-607	Storage Piles
R18-2-608	Mineral Tailings
R18-2-612	Evaluation of Nonpoint Source Emissions
ARTICLE 7	**EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS**
R18-2-702.B	General Provisions
SIP R9-2-521	Standards of Performance for Existing Non-ferrous Metals Industry Sources
R18-2-721.D	Standards of Performance for Existing Non-ferrous Metals Industry Sources
R18-2-721.E	Standards of Performance for Existing Non-ferrous Metals Industry Sources
R18-2-721.F	Standards of Performance for Existing Non-ferrous Metals Industry Sources
SIP R9-2-522	Standards of Performance for Existing Gravel or Crushed Stone Processing Plants
R18-2-722.D	Standards of Performance for Existing Gravel or Crushed Stone Processing Plants
R18-2-722.F	Standards of Performance for Existing Gravel or Crushed Stone Processing Plants
R18-2-722.G	Standards of Performance for Existing Gravel or Crushed Stone Processing Plants
R18-2-724.C	Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment
R18-2-724.E	Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment
R18-2-724.J	Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment
R18-2-726	Standards of Performance for Sandblasting Operations
R18-2-727	Standards of Performance for Spray Painting Operations
SIP R9-2-527.C	Standards of Performance for Spray Painting Operations
R18-2-730.A	Standards of Performance for Unclassified Sources
R18-2-730.D	Standards of Performance for Unclassified Sources
R18-2-730.F	Standards of Performance for Unclassified Sources
R18-2-730.G	Standards of Performance for Unclassified Sources
ARTICLE 8	**EMISSIONS FROM MOBILE SOURCES (NEW AND EXISTING)**
R18-2-801	Classification of Mobile Sources
R18-2-804	Roadway and Site Cleaning Machinery

ARTICLE 9 **NEW SOURCE PERFORMANCE STANDARDS**

R18-2-901.42 40 CFR 60, Subpart LL, Standards of Performance for Metallic Mineral Processing Plants

ARTICLE 11 **FEDERAL HAZARDOUS AIR POLLUTANTS**

R18-2-1101.A.8 National Emission Standards for Hazardous Air Pollutants (NESHAPs), (by reference) 40 CFR 61, Subpart M - Asbestos

ACCIDENTAL RELEASE PREVENTION PROGRAM

40 CFR 68 Chemical Accident Prevention Provisions

PIMA COUNTYCODE

17.16.050.D Visibility Limiting Standard

Compliance with the terms contained in this permit shall be deemed compliance with the Air Quality Permits and Permit Revision Numbers 0128, 1167, 0317-84, 0366-89, 1214, 2307, 1000030, 1000088, 1000335, 1000540, 1000739, 1000696, 1000877, 1000998, 1001264, 1001450, 1001697, and Consented to Order of Abatement A-174-97.

ATTACHMENT "D": EQUIPMENT LIST

AIR QUALITY CONTROL PERMIT NO. M190699P2-99
FOR
PHELPS DODGE SIERRITA INCORPORATED

ID	EQUIPMENT NAME	RATED CAPACITY	YEAR	POINT/ FUGITIVE	NSPS	MAKE, MODEL AND/OR SN
SECTION I: MINING OPERATIONS (REQUIREMENTS IN PERMIT SECTION XI)						
088	Drilling Operations			F	N	
089	Ammonium Nitrate Storage			F	N	
066	Blasting Operations			F	N	
097	Haul Truck Loading and Dumping			F	N	
077	Unpaved Roads (including Ore Hauling)			F	N	
SECTION II: PRIMARY CRUSHING (REQUIREMENTS IN PERMIT SECTION II)						
	6A & 6B Primary Crushers					
	Primary Crusher 6A	5000 tph	1996		Y	Svedala Mark II
	Primary Crusher 6B	5000 tph	1996		Y	Svedala Mark II
113	Wet Scrubber	40,000 acfm		P	Y	Ducon UW-4, III, size 144, SI 2303221
	Sierrita Primary Crushers (2)					
	Primary Crusher 1	5000 tph	1976		N	Allis-Chalmers 60" Gyratory Crusher
	Primary Crusher 2	5000 tph	1976		N	Allis-Chalmers 60" Gyratory Crusher
001	Wet Scrubber	32,000 acfm		P	N	Ducon UW-4, III, size 108, SI 2103221

ID	Equipment Name	Rated Capacity	Year	Point/ Fugitive	NSPS	Make, Model and/or SN
	Esperanza Primary Crusher				N	
	Primary Crusher	2700 tph	1957		N	Allis-Chalmers 48" Gyratory
034	Wet Scrubber	12,000 acfm		P	N	Ducon UW-4, III, size 66, SI 9501106
	Portable Primary Crusher (currently housing only)					
	Primary Crusher (to be relocated from Sierrita Pit ID 001)	5000 tph	1976		N	Allis-Chalmers 60" Gyratory Crusher
067	Wet Scrubber	- acfm		P	N	
	Twin Buttes Primary Crusher					
	Primary Crusher	5000 tph	1975		N	Nordberg 54" Gyratory Crusher
101	Wet Scrubber	27,000 acfm		P	N	Rotoclone R, size 7, SI 34051510
Section III: Overland Ore Conveying (Requirements in permit section II)						
095	Sierrita A2 to A3 Conveyor Transfer (1 point)		1976	F	N	
072	A3 Stacker to Sierrita Coarse Ore Stockpile		1968	F	N	
069	Sierrita B2 to B3 Conveyor (1 point)		1976, 1981	F	N	
096	Sierrita B3 Conveyor to B4 Stacker Transfer (1 point)		1967, 1981	F	N	
102	B4 Stacker to Sierrita Coarse Ore Stockpile		1967	F	N	Stephen-Adamson 60"
068	Sierrita Overland, 02, 03, 04, 05, 06 Conveyors (6 points)		1976	F	N	
070	Portable Primary Crusher Conveyor Transfers (2 points)		1976	F	N	
071	Esperanza #8 and #9 Conveyor Transfers (3 points)		1957	F	N	

ID	Equipment Name	Rated Capacity	Year	Point/ Fugitive	NSPS	Make, Model and/or SN
103	Twin Buttes Belts A-D (5 points)		1975	F	N	
106	Stacker to Twin Buttes Coarse Ore Stockpile		1975	F	N	MX Stacker
Section IV: Fine Ore Crushing - Secondary and Tertiary Crushing (Requirements in permit section III)						
	Sierrita Secondary Scalping Screens					
	Four (4) Secondary Scalping Screens		2000		Y	Svedala 10' x 20' DD
075	#10 Wet Scrubber - Sierrita Secondary Scalping Sceens	25,000 acfm		P	Y	Ducon UW-4, III, size 102, SI 402652010
	Sierrita Secondary Crushing Building					
	Eight (8) Coarse Ore Reclaim Feeders	12,000 tph	1968		N	Stephen-Adamson 48" apron feeders
	Four (4) Coarse Ore Reclaim Belts	8000 tph	1968		N	
	Four (4) Secondary Crushers	7200 tph	1968		N	Allis-Chalmers 1384 EHD Hydrocone Crushers
	Four (4) Secondary Discharge Screens		1968		N	Allis Mineral Systems 8'x16'
	Tertiary Feed Bin		1968		N	
	Ten (10) Tertiary Crusher Feed Belts		1968		N	
	Ten (10) Tertiary Crushers	5200 tph	1968		N	Allis-Chalmers 384 Hydrocone Tertiary Crushers
	Ten (10) Tertiary Discharge Screens		1968		N	
	Various Belt Transfers		pre-1980		N	
002	#1 Wet Scrubber - Sierrita Secondary Crushing Building	58,000 acfm		P	N	Ducon UW-4, III, size 144, SI 402652001

ID	Equipment Name	Rated Capacity	Year	Point/ Fugitive	NSPS	Make, Model and/or SN
003	#2 Wet Scrubber - Sierrita Secondary Crushing Building	58,000 acfm		P	N	Ducon UW-4, III, size 144, SI 402652002
004	#3 Wet Scrubber - Sierrita Secondary Crushing Building	58,000 acfm		P	N	Ducon UW-4, III, size 144, SI 402652003
005	#4 Wet Scrubber - Sierrita Secondary Crushing Building	58,000 acfm		P	N	Ducon UW-4, III, size 144, SI 402652004
006	#5 Wet Scrubber - Sierrita Secondary Crushing Building	58,000 acfm		P	N	Ducon UW-4, III, size 144, SI 402652005
007	#7 Wet Scrubber - Sierrita Secondary Crushing Building	58,000 acfm		P	N	Ducon UW-4, III, size 144, SI 402652007
	Fine Ore Transfer Building					
	7B to 7C Conveyor Transfer Point (1 point)	6000 tph	1968		N	
008	#6 Wet Scrubber	12,000 acfm		P	N	Ducon UW-4, III, size 66, SI 402652006
	Sierrita 7A Bin (including feeder belts and transfer points), 2 Screens and Transfer Point					
	7A Surge Bin		1993		Y	
	Two (2) Screens		1990		Y	Boliden Allis 8'x16' DD
	EC-2 to 8B Conveyor Transfer (1 point)		1968		N	
074	#8 Wet Scrubber	25,500 acfm		P	Y	Ducon UW-4, III, size 144, SI 402652008
	H8000 Tertiary Crusher, 2 Screens & Transfer Point					
	Tertiary Crusher	1000 tph	1999		Y	Svedala Hydrocone H8000
	Conveyor Transfer Point (1 point)		1995		Y	
	Two (2) Screens		1995		Y	Allis Minerals Systems 8'x16'
112	#9 Wet Scrubber	57,000 acfm		P	Y	Ducon UW-4, III, size 144, SI 4026490
	Esperanza Fine Ore Building					

ID	EQUIPMENT NAME	RATED CAPACITY	YEAR	POINT/ FUGITIVE	NSPS	MAKE, MODEL AND/OR S N
	Esperanza Fine Ore Bin Feeder Belts		1957		N	
035	Wet Scrubber - Esperanza Fine Ore Building North-1	6400 acfm		P	N	Ducon UW-4, III, size 48, SI 4026550
036	Wet Scrubber - Esperanza Fine Ore Building North-2	6400 acfm		P	N	Ducon UW-4, III, size 48, SI 4026560
	Esperanza Secondary and Tertiary Crushing					
	Secondary Scalping Screen		1957		N	
	Secondary Crusher	1150 tph	1957		N	Allis Chalmers 1384 EHD Hydrocone Crusher
	Two (2) Secondary Discharge Screens		1957		N	
	Two (2) Tertiary Crushers	500 tph	1957		N	Allis Chalmers Hydrocone Crusher
039	Wet Scrubber - Esperanza Secondary Crusher	25,500 acfm		P	N	Ducon UW-4, III, size 96, SI 9501145
040	Wet Scrubber - Esperanza Secondary Crusher	25,500 acfm		P	N	Ducon UW-4, III, size 96, SI 9501146
SECTION V: FINE ORE STORAGE AND HANDLING (REQUIREMENTS IN PERMIT SECTION IV)						
	Sierrita 8B to 8C Conveyor Transfer					
	Conveyor Transfer Point		1968		N	
116	Wet Scrubber - 8B to 8C Conveyor Transfer	8000 acfm		P	N	Ducon UW-4, IV size 54, SI 402 652010
	Sierrita Fine Ore Bin					
	Fine Ore Bin	70,000 tons	1968		N	
009	#1 Baghouse - Sierrita Fine Ore Bin	4500 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-1
010	#2 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-6
011	#3 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-8

ID	EQUIPMENT NAME	RATED CAPACITY	YEAR	POINT/ FUGITIVE	NSPS	MAKE, MODEL AND/OR SN
012	#4 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-4
013	#5 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-3
014	#6 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-2
015	#7 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-5
016	#8 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-7
017	#9 Baghouse - Sierrita Fine Ore Bin	3000 acfm		P	N	Mikro Pulsaire 36S-8-30, SI 26530-9
	#0-#15 Mill Feed Belt System					
	Mill Feed Transfer Points		1968		N	
018	#0 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654000
019	#1 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654001
020	#2 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654002
021	#3 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654003
022	#4 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654004
023	#5 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654005
024	#6 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654006
025	#7 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654007
026	#8 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654008
027	#9 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654009
028	#10 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654010

ID	Equipment Name	Rated Capacity	Year	Point/ Fugitive	NSPS	Make, Model and/or SN
029	#11 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654011
030	#12 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654012
031	#13 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654013
032	#14 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654014
033	#15 Wet Scrubber - Mill Feed Belt System	10,000 acfm		P	N	Ducon UW-4, III, size 60, SI 502654015
	Lime Unloading & Handling System (Requirements in permit section VII)					
	Lime Unloading & Handling Processes	10 tph	1968		N	
063	Wet Scrubber	6400 acfm		P	N	Ducon UW-4, III, size 48, SI 1502674001
073	Copper/Moly Concentrate Storage Areas		1957, 1968	F	N	
Section VI: Molybdenum Plant (Requirements in permit section V)						
	Unleached Molybdenum Sulfide Dryers					
	Three (3) Dryers	11.25 tph	1968		N/A	Holoflite Type 2D-1620-6 Dryers
041	Wet Scrubber - Unleached Moly Sulfide Dryers	6400 acfm		P	N/A	Ducon UW-4X, III, size 48, SI 16062140
	Leach & Unleach Moly Sulfide Storage, Screening and Handling					
	Leach & Unleach Moly Sulfide Storage, Screening and Handling	60 tph	1969-1994		N/A	
042	Moly Sulfide Baghouse	6000 acfm		P	N/A	Mikro Pulsaire 81S-10-20, SI 16026630
044	Moly Sulfide Dump Hopper		1990		N/A	
045	Moly Sulfide Screw Conveyor Loadout		1995		N/A	

ID	Equipment Name	Rated Capacity	Year	Point/ Fugitive	NSPS	Make, Model and/or SN
117	Moly Sulfide Screw Conveyor Loadout #2		2001		N/A	
	Moly Oxide Storage, Screening and Handling					
	Moly Oxide Storage, Screening and Handling	12 tph	1968		N/A	
048	Moly Oxide Baghouse	4200 acfm	1968	P	N/A	Mikro Pulsaire 56S-10-20, SI 16026600
	Leached Moly Sulfide Dryers					
	Three (3) Sets of Dryers	22.5 tph	1968		N/A	Holoflite Type 2D-1620-6 Dryers
053	#1 Wet Scrubber - Moly Leach Dryers	6400 acfm	1968	P	N/A	Ducon UW-4X, III, size 48, SI 160613001
054	#2 Wet Scrubber - Moly Leach Dryers	6400 acfm	1968	P	N/A	Ducon UW-4X, III, size 48, SI 160613002
	Moly Packaging & Handling System					
	Moly Packaging Processes		1968		N/A	
059	Cannery Baghouse	12,000 acfm	1968	P	N/A	Wheelabrator 168DW, 28RW32, SI 6526615
	Molybdenum Roasting - Maintenance Stack					
	Two (2) #1 and #2 Molybdenum Roaster		1968		N/A	Skinner Multiple Hearth Roaster
	Two (2) Cyclones	52,300 acfm	1968		N/A	Buell Eng. 4BAR #50 Series 43
	Two (2) Electrostatic Precipitators	52,300 acfm	1968		N/A	Western Precipitation Div.
056	Maintenance Stack			P	N/A	
	Molybdenum Roasting - Main Stack					
	Two (2) #1 and #2 Molybdenum Roaster		1968		N/A	Skinner Multiple Hearth Roaster
	Two (2) Cyclones	52,300 acfm	1968		N/A	Buell Eng. 4BAR #50 Series 43

ID	Equipment Name	Rated Capacity	Year	Point/ Fugitive	NSPS	Make, Model and/or SN
	Two (2) Electrostatic Precipitators	52,300 acfm	1968		N/A	Western Precipitation Div.
	Two (2) Lime Slurry Scrubbers	46,900 acfm	1968		N/A	UOP Model 500TCA, SI 60621101
	Two (2) Brinks Mist Eliminator System	45,000 acfm	1975		N/A	Monsanto Enviro-Chem System, Brinks
058	Main Roaster Stack			P	N/A	
118	Molybdenum Leach Plant			F	N/A	
119	Rhenium Recovery Operation			F	N/A	
	Two (2) Raw Materials Storage Bins		1975		N	
046	Two (2) Fabric Filter Bin Vents		1975		N	Carter Day
Section VII: Natural Gas Heaters And Boilers (Requirements in permit section VI)						
062	Boiler - Moly Leach Heating (Primary)	8.3 MMBtu/hr	1960	P	N	Parker Model 150
	NG Heater - Moly Dryer Oil Heating System 2	6.3 MMBtu/hr	1968	P	N	American Hydrotherm Model 500
	NG Heater - Moly Dryer Oil Heating System 1	6.3 MMBtu/hr	1968	P	N	American Hydrotherm Model 500
	Rhenium Plant Water Heater	1.2 MMBtu/hr	1997	P	N	Parker Model WH1210
	Change Room Boiler	2.0 MMBtu/hr		P	N	Parker Model
	SX Electrolyte Heater	2.6 MMBtu/hr	1979	P	N	Parker Model
	Moly Leach Heating (Standby)	25 MMBtu/hr	pre-1970	P	N	Cleaver Brooks CV-760700
	EW Electrolyte Heater	10 MMBtu/hr	1955	P	N	Cyclotherm Model C-10500
	Moly Autoclave Boiler	2.0 MMBtu/hr	pre-1980	P	N	

ID	EQUIPMENT NAME	RATED CAPACITY	YEAR	POINT/ FUGITIVE	NSPS	MAKE, MODEL AND/OR SN
	EW Cathode Wash Heater	3.0 MMBtu/hr	1993	P	N	Parker Model
	Moly Briquette Heater	3.5 MMBtu/hr	1989	P	N	Maxon Oven Pack
	Mine Truck Shop Wash Heater	1.0 MMBtu/hr	1968	P	N	Alkota Model 301
	Miscellaneous fuel-burning equipment fired at a sustained rate of less than 1 million BTU/hr	< 1 MMBtu/hr				

ID	EQUIPMENT NAME	RATED CAPACITY	YEAR	POINT/ FUGITIVE	NSPS	MAKE, MODEL AND/OR SN
SECTION VIII: MISCELLANEOUS AND FUGITIVE EMISSION SOURCES						
076	Organic Storage Tanks - SX #1, #2, #3 (REQUIREMENTS IN PERMIT SECTION IX)			F	N	
078	Gasoline Storage Tanks (REQUIREMENTS IN PERMIT SECTION X)	12,000 gal/each	1990	F	N	Tanks ML-11(1), ML-11(2), SP-13
087	Sierrita Tailing Impoundment (REQUIREMENTS IN PERMIT SECTION XI)	2810 acres		F	N	
093	Road Rock Crushing & Screening Plant (REQUIREMENTS IN PERMIT SECTION XI)	400 tph	1966	F	N	Cedarapids/El Jay RC454 STD Cone Crusher
105	Twin Buttes Electrowinning Tankhouse (REQUIREMENTS IN PERMIT SECTION IX)	144 cells	1975	F	N	
120	Miscellaneous Screens and Grizzlies			F	N	